APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/144,782	09/01/1998	GHANI ABDUL MUTTALIB ABBAS	P/61149.USP/	5198

156   7590   04/29/2005

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EXAMINER
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ART UNIT	PAPER NUMBER
2666	

DATE MAILED: 04/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO 90C (Rev 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/144,782	ABBAS, GHANI ABDUL MUTTALI
	Examiner	Art Unit
	DANG T TON	2666

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>19 November 2004</u>.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>137-172</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>137-172</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

1. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 137,139-143,146-149,153,155,156, and 159-172 are rejected under 35 U.S.C. 103(a) as being unpatentable over ITU-T Recommendation G.707 (Network node interface for the synchronous digital hierarchy)in view of Chopping(5,793,760).

For claim 137, ITU-T G.707 discloses a method for the transmission of data in a synchronous digital hierarchy (SDH) network (see page 3 section 3.3 lines 1-2 and page 5 section 3.10), comprising the steps of: transmitting to a node (see page 4 section 3.7 lines 1-2) of the SDH network a concatenated data signal (see C-4-Xc in figure 8-8/G.707,page 42 section 8.1.7.1) from outside the SDH network, converting the signal into a virtually concatenated information structure (see VC-4-XC in section 8.1.7.1 and figure 8-8/G.707, page 88 section 10.2.3, figure 10-19/G707, page 86 section 10.2, and

page 87 section 10.2.1), and transporting the signal through the SDH network in the

virtually concatenated information structure (VC-4-XC ,see page 42 section 8.1.7.1 and

page 88 section 10.2.3), the converting step including the step of processing a path

overhead (see path overhead J1,B3,C2,G1,F2,H4,F3,K3,and N1 in figure 8-8/G.707) of

the signal by using a part of the path overhead (see H4 in figure 8-8/G/707 and page 66

section 9.3.1.6) in the virtually concatenated information structure (see page 52,section

8.3.8 and figures 8-13/G707 and 8-14/G.707).

For claim 139, ITU-T disclose the concatenated signal being transmitted to the

SDH network from outside the SDH network is in contiguously concatenated form (see

C-4-XC in figure 8-8 and section C.3.3).

For claim 140, ITU discloses the concatenated signal from outside the SDH

network comprising a virtual container four (VC-4) or virtual container three (VC-3) or an

administrative unit three (AU3)(see VC-3,VC-4 and AU-3 in figure 6-1/G.707).

For claim 141, wherein the path overhead comprises bytes H4, J1 and B3(see path

overhead in figure 8-8/G.707) wherein the VC-4 and VC-3 comprise a plurality of the

frames, and the step of processing the path overhead includes the steps of using byte

H4 (see page 52, section 8.3.8 and figures 8-13/G.707 and 8-14/G.707)within the VC-4

or VC-3, using byte J1 to indicate an order of VC-4s or VC-3s (see page 64 section

9.3.1.1) in the virtually concatenated information structure, and correcting, as

necessary, error indication information carried in byte B3(see page 64 section 9.3.1.2 and section C.5 page 99).

For claim 142, wherein the transmitting step transmits the concatenated signal in the form comprising four contiguously concatenated VC-4s(see X=4 in section 8.1.7.1 and 4VC-4s in page 97 section C.3.3), and wherein the processing step processes the four VC-4s into the virtually concatenated information structure comprising virtually concatenated VC-4s for transfer across the SDH network(see VC-4-XC in figure 8-8/G.707).

For claim 143, wherein the transmitting step transmits the concatenated signal in the form comprising contiguously concatenated VC-3s, and wherein the processing step processes the VC-3s into the virtually concatenated information structure comprising virtually concatenated VC-3s for transfer across the SDH network(see VC-3 in figure 6-1/G.707).

For claim 146, ITU-T discloses the steps of switching and transmitting the VC-4 or VC-3 frames of the virtually concatenated information structure through the SDH network together in a single synchronous transfer module (STM) or in multiple STMs and via a same route(see VC-4,VC-3 and STM-N in figure 6-1/G.707 and figure C.2/G.707).

For claim 147, wherein the concatenated signal from outside the SDH network comprises a virtual container two (VC-2) or a virtual container one (VC-1)(see VC-2 in figure 6-1/G.707).

For claim 148, wherein the path overhead comprises bytes V5, J2, N2 and K4 (see section 9.3.2.1 to 9.3.2.4), and wherein the step of processing the path overhead includes the step of transferring contents of the path overhead bytes to unused parts of the signal(see section 9.3.2.5, page 69).

For claim 149, wherein the transmitting step transmits the concatenated signal in the form comprising two or more contiguously concatenated VC-2s or VC-1s, and wherein the processing step processes the VC-2s or VC-1s into the virtually concatenated information structure comprising virtually concatenated VC-2s or VC-1s for transfer across the SDH network (see page 88 section 10.2.3 and figure 10-19/G.707).

For claim 153, in which the VC-2s and VC-1s comprise a plurality of the frames, and the steps of switching and transmitting the VC-2 or VC-1 frames of the virtually concatenated information structure through the SDH network together in a single synchronous transfer module (STM) or in multiple STMs and via a same route (see VC-2/VC-1 in section 9.3.2.1, VC-2, STM_N in figure 6-1/G.707).

For claim 155, ITU-T discloses a synchronous digital hierarchy (SDH) network in which data is carried in a virtually concatenated information structure (see VC-4-XC in figure 8-8/G.707), the network comprising: tributary cards (see TU-3,TU-11,TU-12,TUGs in figure 6-1/G.707) arranged and configured to process signals received in a contiguously concatenated form (C-4-XC) to convert them into a virtually concatenated

form (VC-4-XC)to transfer across the network (see page 99 lines 1-2, page 42 section

8.1.7.1, figure 8-8, page 87 section 10.2.1).

For claim 156, ITU-T discloses the network wherein the tributary cards are

arranged and configured to process the signals transferred to the SDH network in the

virtually concatenated form and to convert them into the contiguously concatenated

form (see page 86 section 10.2 (in reverse operation).

For claim 159, ITU-T discloses a method for the transmission of data in a virtually

concatenated information structure(see VC-4-XC in figure 8-8/G.707) comprising a path

overhead (see POH in figure 8-8/G.707) and a plurality of frames(see figures 8-

13/G.707 and figure 8-14/G.707), the method comprising the steps of: transmitting the

data in a sequence of the frames, and using a part of the path overhead in the virtually

concatenated information structure(see page 52 section 8.3.8 and figures 8-13/G.707

and 8-14/G.707).

For claim 160, ITU-T discloses the path overhead comprising an H4 byte, the

method including the step of using the H4 byte (see H4 in figure 8-8/G.707 and see

page 52 section 8.3.8 and figures 8-13/G.707 and 8-14/G.707).

For claim 161, ITU-T discloses the virtually concatenated information structure

comprising virtual containers (VC), and wherein the path overhead comprises a J1 byte,

the method including the step of using the J1 byte to indicate an order of the virtual

containers in the virtually concatenated information structure(see page 64 section

9.3.1.1).

For claim 162, ITU-T discloses the path overhead comprising a B3 byte for

providing an error indication, the method including the step of correcting, as necessary,

the error indication carried in byte B3 (see B3 in section 9.3.12 page 64 and section C.5

page 99).

For claim 163, ITU-T discloses a virtually concatenated information structure

(VC-4-XC in figure 8-8/g.707) for carrying data in a frame sequence , comprising: a

plurality of frames, and a path overhead, a part of the path overhead in the virtually

concatenated information structure(see page 52 section 8.3.8 and figures 8-13/G.707

and 8-14/G.707).

For claim 164, ITU-T discloses the path overhead comprising an H4 byte (see

page 52 section 8.3.8 and figures 8-13/G.707 and 8-14/G.707).

For claim 165, ITU-T discloses the virtually concatenated information structure

comprising virtual containers, and wherein the path overhead comprises a J1 byte for

indicating an order of the virtual containers in the virtually concatenated information

structure(see page 64 section 9.3.1.1).

For claim 166, ITU-T discloses the path overhead comprising a B3 byte for

providing an error indication(see B3 in section 9.3.12 page 64).

For claim 167, ITU-T discloses the virtually concatenated information structure comprising a virtual container four (VC-4) or virtual container three (VC-3) or an administrative unit three (AU3)(see VC-3,VC-4 and AU-3 in figure 6-1/G.707).

For claim 168, ITU-T discloses the path overhead comprising an H4 byte and a J1 byte, and wherein the H4 byte and the J 1 byte comprise information for controlling alignment of the virtual containers(see H4 and J1 byte in POH, figure 8-8/G.707 and alignment signal in figure 6-1/G.707).

For claim 169, ITU-T discloses a data signal from outside a network comprising a virtual container two (VC-2) or a virtual container one (VC-1)(see VC-2 in figure 8-8/g.707).

For claim 170, ITU-T discloses a network management system for managing data transfer in a virtually concatenated information structure(VC-4-XC in figure 8-8/G.707) for carrying data, comprising: a plurality of frames, and a path overhead, a part of the path overhead in the virtually concatenated information structure (see page 52 section 8.3.8 and figures 8-13/G.707 and 8-14/G.707).

For claim 171, ITU-T discloses a tributary interface(see TU or TUGs in figure 6-1/G.707) for data transmission of a virtually concatenated information structure (VC-4-XC in figure 8-8/G707)for carrying data, comprising: a plurality of frames, and a path overhead, a part of the path overhead in the virtually concatenated information structure (see page 52 section 8.3.8 and figures 8-13/G.707 and 8-14/G.707).

For claim 172, ITU-T discloses a network for the transmission of data in a

virtually concatenated information structure (VC-4-XC in figure 8-8/G.707) for carrying

data, comprising: a plurality of frames, and a path overhead in the virtually

concatenated information structure(see page 52 section 8.3.8 and figures 8-13/G.707

and 8-14/G.707).

For claims 137,139-143,146-149,153,155,156, and 159-172, ITU discloses all the

subject matter of the claimed invention with the exception of using a part of path

overhead (POH) to indicate a sequence of frames in a communications network.

Chopping from the same or similar fields of endeavor teaches a provision of the H4

sequence and frame number in multiframe (see figure 14, frame number and H4

sequence). Thus, it would have been obvious to the person of ordinary skill in the art at

the time of the invention to use the part of POH (H4) as taught by Chopping to indicate

the frame sequence in the communications network of ITU. The part of POH (H4) as

taught by Chopping to indicate the frame sequence can be implemented/modified into

the network of ITU since ITU does teach POH (H4). The motivation for using the part of

POH (H4) as taught by Chopping to indicate the frame sequence into the network of ITU

being that it provides the system more reliable since it detects the frame out of

sequence and correct the error occurred.

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set

forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains.

Patentability shall not be negatived by the manner in which the invention was made.

Claim 138,144,145,150,151, and 157 are rejected under 35 U.S.C. 103(a) as

being unpatentable over ITU-T G.707 and Chopping in view of Bleickardt et al.

(5,461,622).

For claims 138,144,145,150,151,and 157, ITU and Chopping disclose the

communication described in paragraph 3 of this office action.

For claim 145, ITU disclose the step of controlling the aligning step according to

contents of bytes J1 and H4 (see J1 and H4 in path overhead (POH) and aligning signal

in figure 6-1/G.707).

For claim 151, ITU discloses the step of controlling the aligning step according to

contents of the path overhead byes transferred to the unused parts of the signal (see

page 88 section 10.2.3 and figure 10-19/G.707).

For claims 138,144,150,and 157, ITU-T and Chopping disclose all the subject

matter of the claimed invention with the exception of the tributary interfaces comprising

one or more buffers for aligning the virtual containers in a communications network as

recited in claims 144,150,157 and restoring the path overhead (POH) as recited in claim

138. Bleickardt et al. from same or similar fields of endeavor teaches the splitter and

buffer 213 inserting spaces in each output so that overhead bytes can be added that are

aligned between the rails (see column 5 lines 40-44 and boxes 508-1 to 508-3 and 213

in figures 2 and 5)and restoring the POH (see boxes 506-1 to 506-3 in figure 5). Thus, it

would have been obvious to the person of ordinary skill in the art at the time of the

invention to use the buffers and POH extractor as taught by Bleickardt et al. in the

communications network of ITU-T and Chopping. The aligning the virtual containers of

ITU-T and restoring POH can be implemented by connecting the buffers and POH

extractor of Bleickardt et al. into AU-4 or AU-3 of ITU-T. The motivation for using buffers

and POH extractor as taught by Bleickardt et al. in the communications network of ITU-

T being that it provides more efficiency for the system since the system can align/realign

rate signals at the receiving end.

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

Claims 154 and 158 are rejected under 35 U.S.C. 103(a) as being unpatentable

over ITU-T G.707 and Chopping in view of Fukunaga et al.(6,118,795).

For claims 154 and 158, ITU-T and Chopping disclose a method/apparatus described in paragraph 3 of this office action.

ITU-T and Chopping disclose all the subject matter of the claimed invention with the exception of detecting the receipt of signals in the contiguously concatenated form by detecting/recognizing a concatenation indication of the signals received as recited in claims 154 and 158. Fukunaga et al. from the same or similar fields of endeavor teaches the concatenation judgment section 25 detects the state of respective channel independently of the processing by the pointer processing section 11 for detecting the concatenation state of the reception data (see column 19 lines 19-22). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use the concatenation indication of the received signal as taught by Fukunaga et al in the communications network of ITU-T and Chopping. The detecting the concatenation of the received signal can be implemented by connecting the processing pointer processing apparatus of Fukunaga et at the receiving end of the communications network of ITU-T. The motivation for using the detection of the concatenation state as taught by Fukunaga et al. in the communications network of ITU-T and chopping being that to identify a frame size of the received transmission frame in the SDH system and to perform flexibly and rapidly a reception pointer processing corresponding to the frame size.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains.

Patentability shall not be negatived by the manner in which the invention was made.

Claim 152 is rejected under 35 U.S.C. 103(a) as being unpatentable over ITU-T

and Chopping in view of Background of the invention of Rickard (5,588,000).

For claim 152,ITU-T discloses the contiguously concatenated VC-2s or VC-1s (see

VC-2 in figure 6-1/G.707)received from outside the SDH network comprising a plurality

of the frames in a set sequence(see page 52, section 8.3.8 and figures 8-13 and 8-14)

For claim 152, ITU-T and Chopping disclose all the subject matter of the claimed

invention with the exception of reordering the frames in the set sequence as required.

The background of the invention of Rickard from the same or similar fields of endeavor

teaches a provision of frames being received out of order, and thus burden the

destination device with the task of reordering the frames (see column 2 lines 9-11).

Thus, it would have been obvious to the person of ordinary skill in the art at the time of

the invention to use the reordering frames as taught by the background of Rickard in the

communications network of ITU-T and Chopping The reordering frames of Rickard can

be implemented into communications network of ITU_T by connecting the reordering

frame device at the receiving end of ITU-T. The motivation for using the reordering

frames in sequence as taught by Rickard in the communications network of ITU-T and

chopping being that it provides the system more reliable since it detects which sequence is misplaced and fixed the problem by reordering the frames in sequence as required.

6. Applicant's arguments filed 11/29/2004 have been fully considered but they are not persuasive.

In the remarks of 11/29/2004, applicant traverses the rejection of claims under 35 U.S.C 103. The traversal is based on ground that reference does not teach conversion between a contiguously concatenated data structure and a virtually concatenated data structure. This argument is not found to be persuasive. Applicant's attention is directed at converting the signal into a virtually concatenated information structure (see VC-4-XC in section 8.1.7.1 and figure 8-8/G.707, page 88 section 10.2.3, figure 10-19/G707, page 86 section 10.2, and page 87 section 10.2.1).

Applicant also argued that references does not teach frame sequence of virtual concatenated information structure. This argument is also not found to be persuasive. Applicant's attention is directed at page 52, section 8.3.8 and figures 8-13/G.707 and 8-14/G.707 within VC-4 or VC-3 and page 64 section 9.3.1.1 wherein it teaches H4 for indicating sequence of frames and J1 for indicating an order of VC-4s or VC-3s.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

8.   Any inquiry concerning this communication or earlier communications from

the examiner should be directed to DANG T TON whose telephone number is 703-305-

4739. The examiner can normally be reached on MON-WED, 5:30 AM-6:00 PM and

Thur 5:30-9:30 A.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, RAO SEEMA can be reached on 703-308-5463. The fax phone numbers

for the organization where this application or proceeding is assigned are 703-872-9314

for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is 703-305-
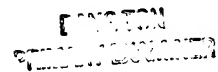
3900.

D. Ton

April 13, 2005